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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/842,540	04/26/2001	James A. Greer	11460-103	7634

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PERKINS, SMITH & COHEN LLP
ONE BEACON STREET
30TH FLOOR
BOSTON, MA 02108

EXAMINER

NGUYEN, KIET TUAN

ART UNIT PAPER NUMBER

2881

DATE MAILED: 07/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/842,540

Applicant(s)

Greer

Examiner

K. Nguyen

Group Art Unit

2881

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☐ Responsive to communication(s) filed on _____
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-34 is/are pending in the application.
- ☐ Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-34 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some* ☐ None of the:
 - ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 6
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

Rejection Under 35 U.S.C. 112, Second Paragraph

Claims 4-9 and 13-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 4, 7, 13 and 16 are indefinite for reciting the limitation "steps b through e". Since the independent claim 1 does not recite the step e.

Rejection Under 35 U.S.C. 102(b)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23-25, 27-28 and 31-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Kumar et al. (5,331,172).

Kumar et al. disclose, in figs. 1-30D, an ionized metal cluster ion beam system. The system includes an ion source 20 for producing a gas cluster ion beam; a beam gate 98 for opening state and/or closing state of the ion beam (see col. 10, lines 37-40); means for rotating the beam gate 98 to control the open state and/or the closed state for the ion beam (see figs. 30A-30D); beam defining means having apertures 90 and 96; an X-Y stage 76 for moving a substrate 10; and a programmable computer (see col. 11, lines 32-53) for controlling the current ion of the ion source 20, the opened/closed ion beam of the beam gate 98 and the moving state of the X-Y stage 76.

Rejection Under 35 U.S.C. 103(a)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-22, 26, 29-30 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar et al. (5,331,172).

Kumar et al. disclose all the features as discussed above except at least one SAW device as recited in claims 1, 3, 12 and 34; a current collection device as recited in claims 26 and 30; and a plurality of gases as recited in claim 29.

Processing at least one SAW device is considered to be obvious variation in design, since a plurality of SAW devices processed for changing properties by applying the cluster ion beam is well known in the art and in the gas cluster ion beam processing system as applicant admitted figs. 1-2 in this application, thus would have been obvious to one skilled in the art to process the plurality of SAW devices in the Kumar et al. gas cluster ion beam system for changing the properties of the SAW devices.

Using the current collection device and the plurality of gases added to the ion source is also considered to be obvious variation in design, since using the current collection device and the plurality of gases added to the ion source to process the substrate is well known in the art and in the gas cluster ion beam processing system, thus would have been obvious to one skilled in the art

to use the current collection device and the plurality of gases added to the ion source in the Kumar et al. gas cluster ion beam system for processing the substrate.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1) Tsukazaki et al. disclose a gas cluster ion beam apparatus for forming a thin film on a substrate and a current measurement meter; and

2) Allen et al. disclose a gas cluster ion beam system for processing SAW devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner *Kiet T. Nguyen* whose telephone number is (703) 308-4855.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

K.T.N/Primary
July 6, 2003



KIET T. NGUYEN
PRIMARY EXAMINER